

Waste Reduction Goal Task Force
BRIEFING PAPER
For
Construction and Demolition Wastes

Background:

The Solid Waste Management Act of 1991 states that each Municipal Solid Waste Planning Region shall reduce the amount of Class I disposal by 25% by March 31st 2003. Current measures for the calendar year 2005 puts the waste reduction and diversion rate at 16%. Furthermore, disposal has been slowly increasing on a yearly basis rather than decreasing at a rate that is outpacing normal growth that could be associated with increasing in population or economic growth. In an effort to gain control over this trend it is important to identify and divert those items contributing heavily to the increased disposal.

Although Tennessee has not had a formal scientific waste stream analysis in recent years, other states have. It has been found that in states with rapid economic development and growth; construction and demolition debris can amount to over 30% of a state's waste stream by weight.

For 2005, Tennessee's permitted Class III/IV landfills handled a reported 1,477,854 tons of C&D waste. Another 60,729 tons were reported as recycled. When compared against Class I disposal, this amounts to 19% of the waste being placed in Class III/IV landfills. When compared against all generation including commercial and industrial operations, the percentage of C&D being placed in Class III/IV landfills or recycled is 10%. These figures combined with the knowledge that a large percentage of C&D materials are being shipped to Class I landfills shows that improvements are needed.

Construction and Demolition Recycling Facilities

As an alternative to landfilling C&D material in a separate landfill, centers can be established where C&D materials can be sorted and recycled. Common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development. Of these, metals are the most commonly recycled material while lumber makes up the majority of debris that still goes to a landfill. Through careful planning, reuse and recycling of C&D materials can actually be more economical than disposal.

Existing municipal recycling programs may be suitable for recovering many of these common materials. For example corrugated cardboard (OCC) from packaging, a variety of plastics (PVC pipe, packaging, etc), glass, and yard wastes from site work and clearing are among a few.

Because of limited local program infrastructure, recycling opportunities in some areas of the state may not be the most economical option for these materials.

Building Green

Sustainable design or “building green” is an opportunity to use resources efficiently while creating healthier buildings. It provides cost savings through improved human health and productivity, lower cost building operations, and resource efficiency.

A green building, also known as a sustainable building, is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner. Green buildings are designed to meet certain objectives such as protecting occupant health; improving employee productivity; using energy, water, and other resources more efficiently; and reducing the overall impact to the environment.

C&D debris recycling is one aspect of building green.

Construction and Demolition Ordinances

C&D ordinances are enacted to state that a certain amount of all materials within a construction or demolition project be diverted away from a landfill. For Tennessee’s purpose, this could mean diverting away from a Class I facility to a Class III/IV facility or depending upon the language; or to a C&D recycling facility.

Below is one example of how a C&D Ordinance System might work:

The State could provide one or more model ordinances, suitable for modification by a local government, that the local government may adopt requiring a range of diversion rates of C&D waste materials from 50 to 75 percent, as determined by the by the local government, and as measured by weight.

The State would not require that jurisdictions to adopt the model ordinance as their own by default, nor would it require jurisdictions to adopt any such ordinance. The intent of the ordinance would be to provide local jurisdictions with a tool/alternative to assist them in diverting C&D waste.

The model should to have a tiered format to provide jurisdictions with maximum flexibility. A jurisdiction that chooses to use the model may pick and choose whichever components best fit its local conditions, as jurisdictions are encouraged to adapt the model to fit their needs.

Obstacles to Implementation of C&D Measures

Currently there are only two known, functional C&D recycling facilities within the state located in Davidson and Scott counties. The low price of disposal and the low profit margins associated with the fledgling C&D recyclable markets make C&D recycling facilities potentially non-competitive with local Class I and Class III/IV landfills.

In states that have established regional C&D recycling programs, often one or more of the following conditions are in place:

- Recycling is mandated
- Tipping fees for local landfills are high
- Land suitable for landfilling is rare and expensive
- Local buyer for end products exists.

Even in areas with large C&D recycling programs, often end-uses are limited to alternative daily covers, land additives, and construction additives. Research and Development continue to develop more markets as more C&D recycling programs come online.

Waste Characterization Study

A recent study by Tennessee State University and Middle Tennessee State University, entitled, “ Solid Waste Management in Tennessee: Diversion of Organic, Construction, and Demolition Material Wastes from Tennessee Class I and Class IV Landfills”, identified C&D materials as the largest sector of waste that could be recycled. This study also outlines legislative strategies for further management of this waste stream.

Issues:

To be determined by the Task Force

Focus Questions:

1. Should C&D recycling and diversion be a part of the mandated municipal solid waste region's waste reduction goal? To what extent?
2. Should C&D recycling and diversion be considered as part of a completely separate waste goal or diversion effort?
3. Should an option within the statewide goal include C&D recycling and diversion? How would infrastructure be funded? What implementation role would the Department of Environment and Conservation have with programs and projects like C&D recycling ordinance programs, green building programs, and reuse projects?
4. Should economic incentives and disincentives (implementing or decreasing/increasing tipping fee surcharges for C&D landfills) be considered in dealing with C&D?
5. Should any determined goal apply to public/private entities equally? Should they apply equally to county and municipal governments?
6. Should all C&D materials be considered for recycling diversion and recycling?